2015 Design Training Expo

GIS@FDOT

Building interactive maps using ArcGIS Online

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Overview

- What is GIS@FDOT?
- What can I do with it?
- Using GIS@FDOT
- Current Maps & Applications
- Best Practices
- What's Next?

GIS @FDOT

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GIS at FDOT

7% of the agency uses ArcGIS Desktop

Used in a variety of disciplines

Design
Maintenance
Safety
Planning
Traffic Operations
IT

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What is GIS@FDOT?

- ArcGIS Online Organizational Account
  - Implemented in November 2015
  - Lightweight maps & applications
  - Data sharing for both internal and external use without taxing our existing IT Infrastructure
  - Brings GIS to YOU instead of relying on GIS Technicians
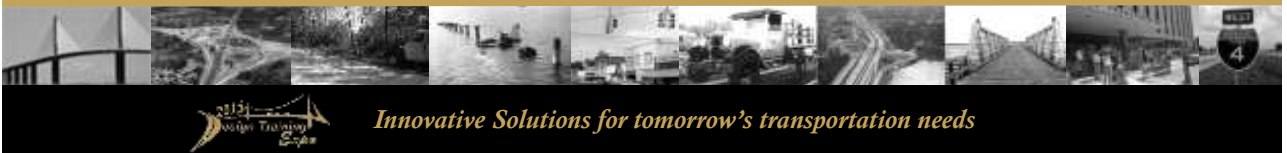 - Implement GIS solutions for more efficient workflows

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GIS@FDOT

- Collaborative
- Cloud-based
- Content Management System
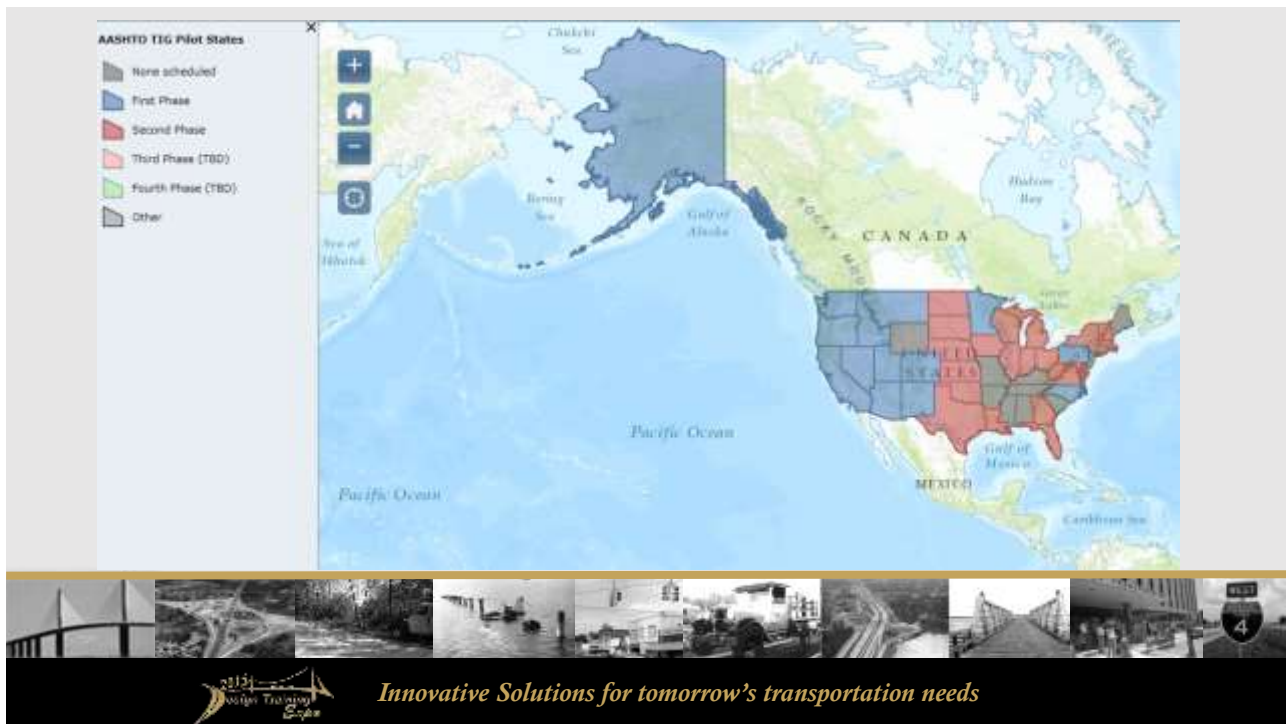- Ready-to-use maps
- Analytics Tools
- Lightweight Development

Image courtesy Esri, Inc.

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GIS@FDOT

- Modeled after UPLAN
  - UPLAN Phase II

- AASHTO Innovation Initiative
  - Provided FDOT with 100 named users and 17,500 credits

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What can I do with it?

- Create maps
- Create data
- Create web applications
- Perform spatial analysis
- Share information

Credit Model

- Annual subscription
- Named users
- Service Credits
  - Storage
  - Analytics
  - Demographic content
    - Data Enrichment

Current Usage

- 63 Named Users
- 34 Groups
- Content
  - 93 Maps
  - 398 Layers
  - 58 Files
  - 53 Apps

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How to use GIS@FDOT

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Create Maps

- Choose your basemap
  - Select from the gallery or add your own
- Add your data
  - Search existing content or upload your own
- Change your style (symbology)
- Configure pop-ups (identify)

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Create Data

- Esri Maps for Office
  - Map and analyze data directly from Excel
  - Share maps created from Excel
- Data Enrichment
  - Add demographic and statistics to existing data
  - Uses location of features to determine values
  - Can perform analysis on added attributes

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Perform Spatial Analysis

- Find Existing Locations
- Derive New Locations
- Find Hot Spots
- Find Similar Locations
- Plan Routes

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Create Web Applications

- **No development skills necessary!**
- Configurable Templates
  - Viewers
  - Find, Edit, Filter
  - Story Maps
  - Time Aware
- Web AppBuilder

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Share information

- Four levels of information sharing
  - Private
  - Group
  - Organization
  - Public
- Share via web apps
- Embed maps in existing web pages

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Current Applications

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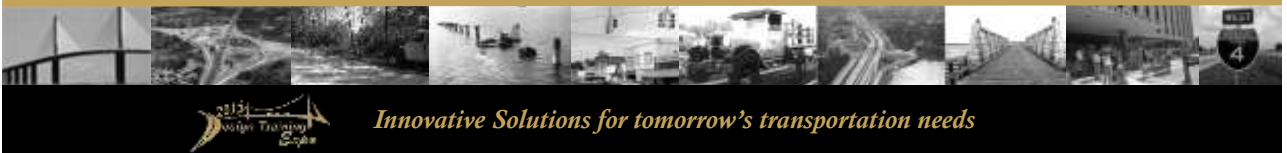
Applications & Maps

- Bicycle Friendly Roads
- Work Program Projects
- Virtual State Map
- Florida Bridges
- Pavement Evaluation & Testing
- Safety: Pedestrian Traffic
- Wildflower Locations
- Adopt-A-Highway

- Turnpike Construction
- District Operations
- Asset Management Contracts
- Strategic Intermodal System
- TBX Project Locations
- Soil Borings
- Stormwater Ponds/Outfalls
- Scenic Highways

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Bicycle Friendly Roads

- Displays a variety of bicycle friendly roads and trails throughout the state
  - Include roads that contain a bike lane, shared path, or a shoulder width of 3.5' or greater to accommodate cyclists.
- Ancillary information provided
  - AADT, speed limits, and number of lanes
  - Data was created by combining layers from RCI
- Integrates Google StreetView

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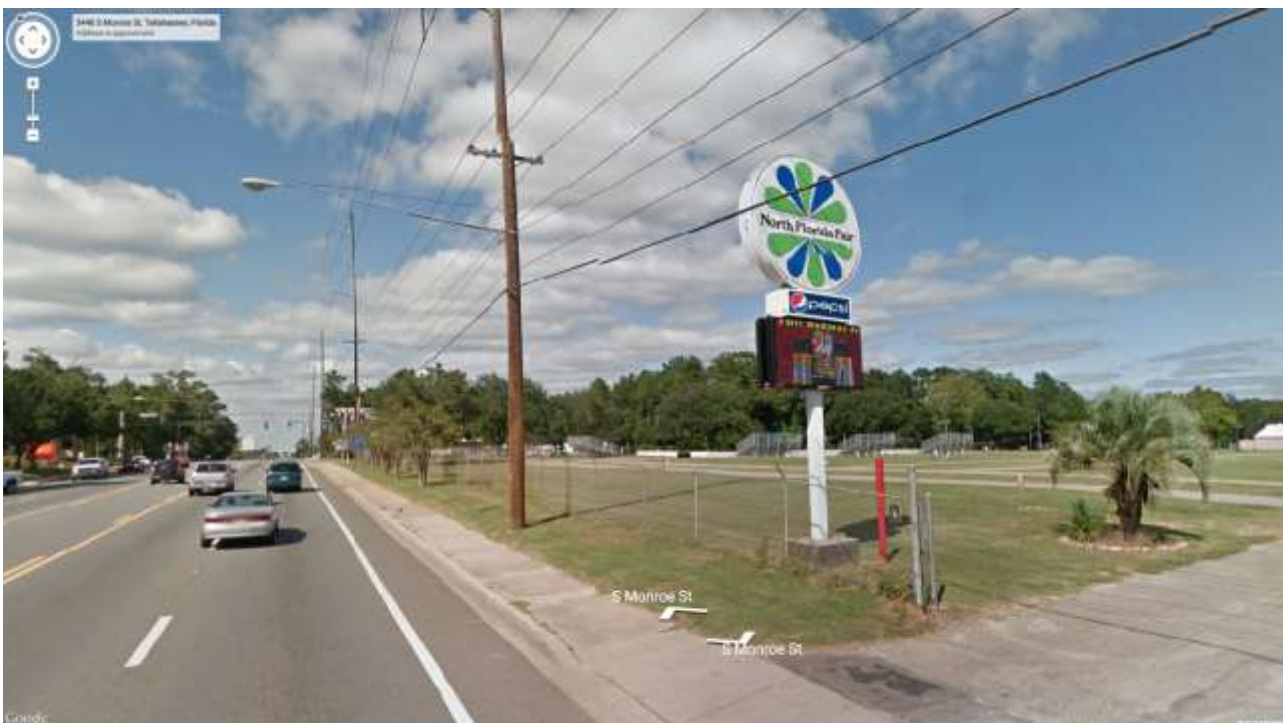
High Pedestrian Traffic Areas

- Used to collect information on areas with high pedestrian volume
- Helps address pedestrian crashes in Florida
  - Pedestrian volume is difficult & time consuming to collect
- FDOT Districts, MPOs, other local governments use the app to identify corridors of high volume in their cities/regions.
- Allows the FDOT Safety Office to identify where additional pedestrian safety features (lighting, etc) should be installed.

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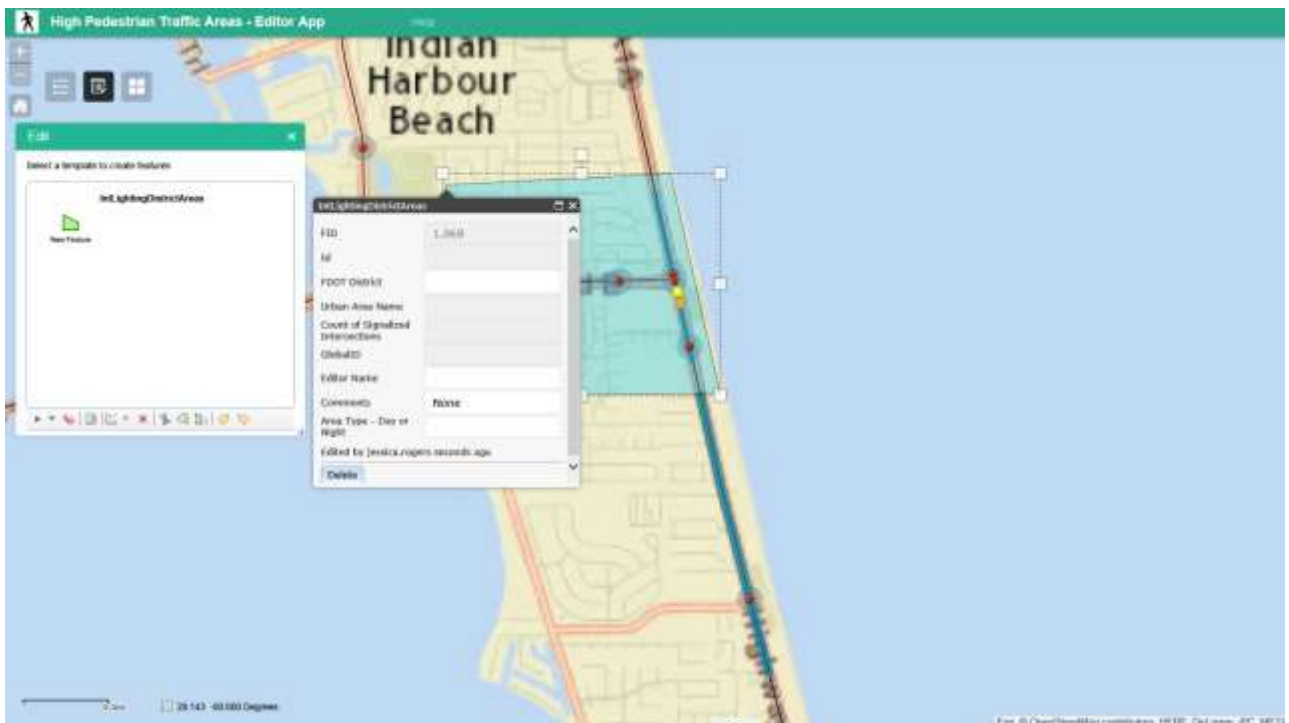
District Operations

- Contains common use data elements used in the day-to-day functions at District 1
  - Operational Layers
  - Access Management
  - Surveying & Mapping
  - Right of Way
  - Parcels
  - D1 Transportation Statistics layers

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NPDES Stormwater Ponds & Major Outfalls

- Identifies stormwater ponds & outfalls along Florida's Turnpike

- Using Collector for ArcGIS app; mobile data collection
  - Locations of asset
  - Photos of features

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Non-Destructive Pavement Testing

- Developed for Mobile Reflectivity Unit (MRU) in State Materials
- Color coded to easily identify which pavement marking needs testing
- Replaced the need to hand color-code maps from key sheets
- Contains basic roadway information to have quick access to data found in SLDs
- Editing capability
- Mobile-friendly!

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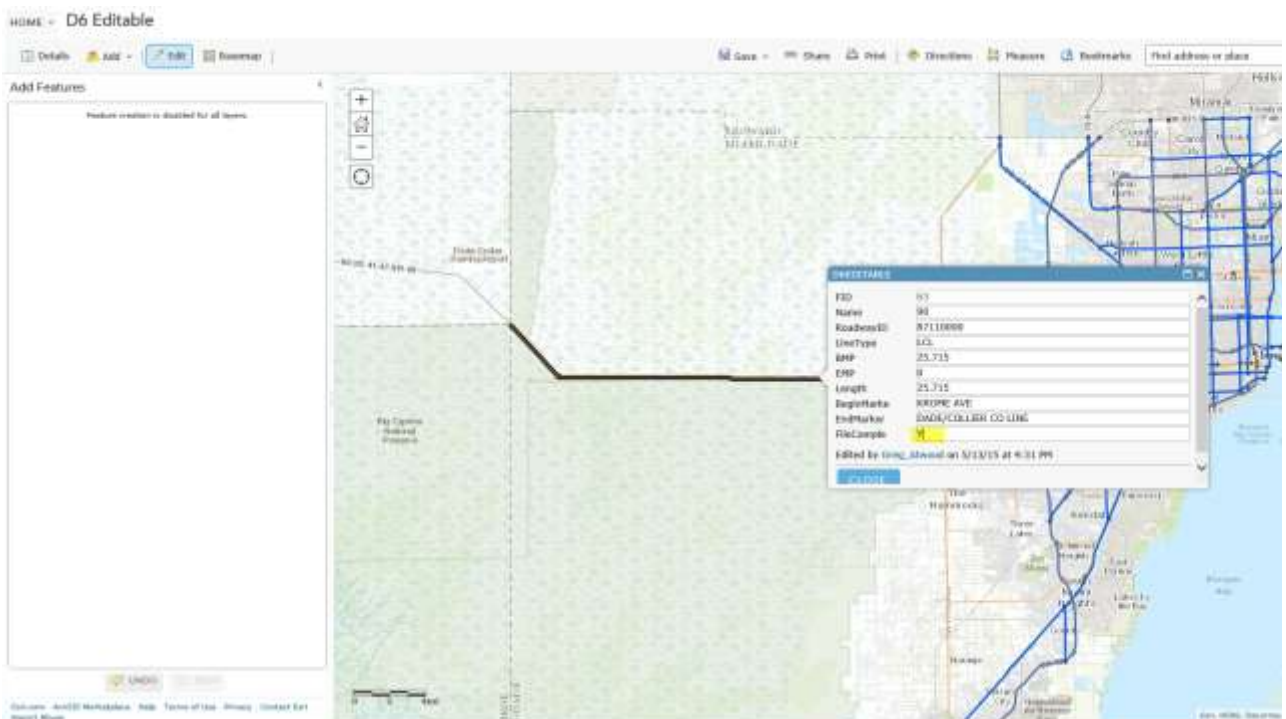
Florida Bridges

- Provides a virtual tour of prominent bridges in Florida
- Story Map
  - Easy to create & maintain
  - Visual representation for executive or public communication

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Best Practices

- Use of Groups
  - Functional Area
  - Project Specific
- User Roles
  - Custom Roles
  - Managed at the functional area/district level
    - Local Admin Role

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Best Practices

- Data Publishing
  - Sharing content to the public
  - Standard metadata
  - Tags
  - Disclaimer
- Content Management
  - Quarterly review of content
- Credit Management
  - Consult administrators before performing credit-heavy tasks

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Live Demo

What's next for GIS@FDOT?

- Continue to expand users & applications
  - 63 members; can have up to 169
- Share data & services with non-FDOT users
  - Example: Unified Basemap/NAVSTREETS
- Sharing custom templates
  - Custom "widgets" & tools
- Open Data
  - Portal for sharing public datasets, maps, & apps in one place
  - Imagery Storage

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Questions?

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